CLAIMS

We claim:

1. A process for producing algae resistant roofing granules, the process comprising:

(a) providing porous, inert base particles; and

(b) providing at least one inorganic algaecide on or within the base particles to form algaecide-bearing particles.

2. A process according to claim 1, wherein the base particles are prepared from a mixture including stone dust and a binder.

3. A process according to claim 2 wherein the binder comprises an aluminosilicate material.

4. A process according to claim 3 wherein the mixture is formed into base particles by a forming process selected from press molding, cast molding, injection molding, extrusion, spray granulation, gel casting, pelletizing, compaction and agglomeration.

5. A process according to claim 1 wherein the at least one inorganic algaecide is provided on the base particle by coating the base particle with the at least one inorganic algaecide.

6. A process according to claim 4 wherein the base particles are fired in a kiln to insolubilize the binder.

7. A process according to claim 1 wherein the at least one inorganic algaecide is selected from the group consisting of copper materials, zinc materials, and mixtures thereof.

8. A process according to claim 7 wherein the inorganic algaecides are cuprous oxide and zinc oxide.

9. A process according to claim 6 wherein the at least one inorganic algaecide is provided in the base particles after the base particles are fired, an algaecide-forming compound being dissolved in a fluid to form a solution, the solution being drawn into the pores in the base particles by capillary action to form solution-laden particles, the solution-laden particles being subsequently treated to convert the algaecide-forming compound to an inorganic algaecide.

10. A process according to claim 9 wherein the algaecide-forming compound is a soluble copper salt, and the solution-laden particles are subsequently treated by heating the particles to convert the soluble copper salt to cuprous oxide.

11. A process according to claim 6 wherein the at least one inorganic algaecide is provided in the base particles after the base particles are fired, an algaecide-forming compound being mixed with a binder and a fluid to form a slurry, the slurry being drawn into the pores in the base particles by capillary action to form slurry-laden particles, the slurry-laden particles being subsequently treated to convert the algaecide-forming compound to an inorganic algaecide.

12. A process according to claim 11 wherein the algaecide-forming compound is a soluble copper salt, and the slurry-laden particles are subsequently treated by heating the particles to convert the soluble copper salt to cuprous oxide.

13. A process according to claim 1 further comprising coating the algaecide-bearing particles with a colorant composition.

14. A process according to claim 13 wherein the colorant composition includes a fusible binder, and further comprising heating the colorant-coated algaecide-bearing particles to fuse the binder.

15. A process for producing algae resistant roofing granules, the process comprising:

(a) mixing stone dust, a binder and at least one inorganic algaecide; and

(b) forming the mixture into particles by a forming process selected from press molding, cast molding, injection molding, extrusion, spray granulation, gel casting, pelletizing, compaction and agglomeration.

16. A process according to claim 1 wherein the at least one inorganic algaecide is selected from the group consisting of copper materials, zinc materials, and mixtures thereof.

17. A process according to claim 7 wherein the inorganic algaecides are cuprous oxide and zinc oxide.

18. A process according to claim 15, wherein the binder comprises an aluminosilicate material, and the process further comprises firing the particles in a kiln to insolubilize the binder.

19. A process for producing algae resistant roofing shingles, the process comprising producing algae-resistant roofing granules, and adhering the granules to a

shingle stock material, the algae-resistant roofing granules being produced by a process comprising:

(a) providing porous, inert base particles; and

(b) providing at least one inorganic algaecide on or within the base particles to form algaecide-bearing particles.

20. A process according to claim 19, wherein the base particles are prepared from a mixture including stone dust and a binder.

21. A process according to claim 20 wherein the binder comprises an aluminosilicate material.

22. A process according to claim 21 wherein the mixture is formed into base particles by a forming process selected from press molding, cast molding, injection molding, extrusion, spray granulation, gel casting, pelletizing, compaction and agglomeration.

23. A process according to claim 19 wherein the at least one inorganic algaecide is provided on the base particle by coating the base particle with the at least one inorganic algaecide.

24. A process according to claim 21 wherein the base particles are fired in a kiln to insolubilize the binder.

25. A process according to claim 19 wherein the at least one inorganic algaecide is selected from the group consisting of copper materials, zinc materials, and mixtures thereof.

26. A process according to claim 25 wherein the inorganic algaecides are cuprous oxide and zinc oxide.

27. A process according to claim 25 wherein the at least one inorganic algaecide is provided in the base particles after the base particles are fired, an algaecide-forming compound being dissolved in a fluid to form a solution, the solution being drawn into the pores in the base particles by capillary action to form solution-laden particles, the solution-laden particles being subsequently treated to convert the algaecide-forming compound to an inorganic algaecide.

28. A process according to claim 27 wherein the algaecide-forming compound is a soluble copper salt, and the solution-laden particles are subsequently treated by heating the particles to convert the soluble copper salt to cuprous oxide.

29. A process according to claim 25 wherein the at least one inorganic algaecide is provided in the base particles after the base particles are fired, an algaecide-forming compound being mixed with a binder and a fluid to form a slurry, the slurry being drawn into the pores in the base particles by capillary action to form slurry-laden particles, the slurry-laden particles being subsequently treated to convert the algaecide-forming compound to an inorganic algaecide.

30. A process according to claim 29 wherein the algaecide-forming compound is a soluble copper salt, and the slurry-laden particles are subsequently treated by heating the particles to convert the soluble copper salt to cuprous oxide.

31. A process according to claim 19 further comprising coating the algaecide-bearing particles with a colorant composition.

32. A process according to claim 31 wherein the colorant composition includes a fusible binder, and further comprising heating the colorant-coated algaecide-bearing particles to fuse the binder.

33. A process for producing algae resistant roofing shingles, the process comprising producing algae-resistant roofing granules, and adhering the granules to a shingle stock material, the algae-resistant roofing granules being produced by a process comprising:

(a) mixing stone dust, a binder and at least one inorganic algaecide; and

(b) forming the mixture into particles by a forming process selected from press molding, cast molding, injection molding, extrusion, spray granulation, gel casting, and pelletizing.

34. A process according to claim 33 wherein the at least one inorganic algaecide is selected from the group consisting of copper materials, zinc materials, and mixtures thereof.

35. A process according to claim 34 wherein the inorganic algaecides are cuprous oxide and zinc oxide.

36. A process according to claim 33, wherein the binder comprises an aluminosilicate material, and the process further comprises firing the particles in a kiln to insolubilize the binder.

37. An algae resistant roofing shingle produced by the process of claim 19.

38. An algae resistant roofing shingle produced by the process of claim 33